REMARKS

Claims 12 and 48-50 have been amended to correct their dependencies. Claims 1 and 13 have been amended as disclosed in the original application in paragraphs [0049]-[0060] and the figures, particularly Fig. 3. Claim 28 is amended to correct an error that had been overlooked.

Claims 1, 4-28, and 30-54 remain pending.

Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 12 and 48-50 were rejected as indefinite for depending on cancelled claims. The dependencies of these claims have been changed to pending claims. Reconsideration of the claims in view of the amendments is respectfully requested.

Rejection Under 35 U.S.C. § 103(a) over Watkins in View of Mueller et al.

Claims 1 and 4-27 have been rejected as unpatentable over Watkins, WO 02/36196A1 in view of Mueller et al., U.S. Patent 6,403,231. Applicants respectfully traverse the rejection.

Applicants have amended independent claims 1 and 13 to include the laminar nano-filler in fluid barrier material microlayers of a laminate composite layer. Thus, the claimed subject matter now has such a feature in common with independent claim 28.

Neither the Watkins nor the Mueller reference teaches or suggests a membrane or bladder that includes a microlayer polymeric composite layer having microlayers of a fluid barrier material comprising a laminar nano-filler. As discussed in more detail below regarding the rejection of claims 28 and 30-54, such a membrane and articles made from it have unexpectedly improved properties.

Accordingly, Applicants request that the rejection be withdrawn and the claims be reconsidered.

Rejection Under 35 U.S.C. § 103(a) over Bonk in View of Mueller et al.

Claims 28 and 30-54 have been rejected as unpatentable over Bonk et al., U.S. Patent 6,082,025 in view of Mueller et al., U.S. Patent 6,403,231. Applicants respectfully traverse the rejection.

Claims 28 and 30-54 (as well as amended claims 1 and 4-27) have as a feature a microlayer polymeric composite layer comprising alternating elastomeric and polymeric barrier material layers, with the polymeric barrier material comprising a laminar nano-filler.

As discussed in paragraph [0056], the microlayer polymeric composite layer is unexpectedly beneficial because the process for making the microlayers tends to align the extremely small nano-filler platelet more generally parallel to the faces of the microlayer polymeric composite, so that the gas transmission rate can be reduced. This could not be expected from forming thicker layers because of the fineness of the platelets relative to the layer thickness.

The cited Bonk patent, which recognizes an improvement in resiliency, column 5, lines 23-27, but does not contemplate further modifications of the microlayers. The Mueller patent describes including nanosize particles in polyolefins, polyamides, polyesters, polyacrylonitriles, ethylene vinyl alcohol copolymers, and other such non-elastomeric materials. Hence, while a thin film of these materials may be flexible, it is not resilient.

Additionally, the Mueller patent films are comparatively thick—the tables provided with the Examples show layer thicknesses of 0.2 mils and higher, while Applicant's microlayers are

no more than half that thick, and in certain embodiments may be much thinner still. Paragraph [0050]. Therefore, one could not have expected the improvement in including the nano-filler in microlayers of a microlayer polymeric composite layer of a membrane, as it would not have been apparent from the Mueller films.

Accordingly, Applicants request that the rejection be withdrawn and the claims be reconsidered.

CONCLUSION

Applicants believe that the claims are in condition for allowance, and an early allowance of the application is earnestly requested.

The Examiner is invited to telephone the undersigned if it would be helpful for resolving any issue.

Respectfully submitted,

Anna M. Budde
Registration No. 35,085

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Harness, Dickey & Pierce, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600